\_\_\_\_\_\_

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866) 217-9197 (toll free).

Reviewer: Durreshwar Anjum

Timestamp: [year=2008; month=4; day=22; hr=14; min=22; sec=17; ms=506; ]

\_\_\_\_\_\_

## Validated By CRFValidator v 1.0.3

Application No: 10553656 Version No: 2.0

Input Set:

Output Set:

**Started:** 2008-04-08 18:49:41.211 **Finished:** 2008-04-08 18:49:41.948

**Elapsed:** 0 hr(s) 0 min(s) 0 sec(s) 737 ms

Total Warnings: 7

Total Errors: 0

No. of SeqIDs Defined: 32

Actual SeqID Count: 32

Error code		Error Description							
W	213	Artificial or Unknown found in <213> in SEQ ID (5)							
W	213	Artificial or Unknown found in <213> in SEQ ID (6)							
W	213	Artificial or Unknown found in <213> in SEQ ID (7)							
W	213	Artificial or Unknown found in <213> in SEQ ID (8)							
W	213	Artificial or Unknown found in <213> in SEQ ID (9)							
W	402	Undefined organism found in <213> in SEQ ID (18)							
W	402	Undefined organism found in <213> in SEQ ID (29)							

## SEQUENCE LISTING

<110>	CropDesign N.V.							
<120>	Plants having modified growth characteristics and method for making the same							
<130>	4982-13							
<140>	10553656							
<141>	2005-10-14							
<150>	EP 03076086.2							
<151>	2003-04-14							
<160>	32							
<170>	PatentIn version 3.3							
<210>	1							
<211>	336							
<212>	DNA							
<213>	Arabidopsis thaliana							
<400>	1							
ttttcat	ttca taaatttttc ttcaatttga attttctcga gaaaaatgtc ttgctgtgga 🦠	50						
ggaaact	tgcg gatgtggatc tggctgcaag tgcggcaacg gttgtggagg ttgcaaaatg 12	20						
tacccto	gact tgggattete eggegagaca accaeaactg agaettttgt ettgggegtt 18	3 0						
gcaccgo	gcga tgaagaatca gtacgaggct tcaggggaga gtaacaacgc tgagaacgat 24	ŀΟ						
gcttgca	aagt gtggatctga ctgcaagtgt gatccttgca cctgcaagtg aagaagcctt 30	0 (						
tttaaat	taag cagagataat cgagtctctt taatta 33	36						
<210> <211> <212> <213>	2 81 PRT Arabidopsis thaliana							
<400>	2							
Met Ser 1	r Cys Cys Gly Gly Asn Cys Gly Cys Gly Ser Gly Cys Lys Cys 5 10 15							
Gly Asr	n Gly Cys Gly Gly Cys Lys Met Tyr Pro Asp Leu Gly Phe Ser 20 25 30							

Gly Glu Thr Thr Thr Glu Thr Phe Val Leu Gly Val Ala Pro Ala 35 40 45

Met Lys Asn Gln Tyr Glu Ala Ser Gly Glu Ser Asn Asn Ala Glu Asn 55 Asp Ala Cys Lys Cys Gly Ser Asp Cys Lys Cys Asp Pro Cys Thr Cys 65 70 75 Lys <210> 3 <211> 545 <212> DNA <213> Arabidopsis thaliana <220> <221> misc\_feature <222> (331)..(331) <223> n is a, c, g, or t <400> 3 cattcataaa tttttcttca atttgaattt tctcgagaaa aatgtcttgc tgtggaggaa 60 actgcggatg tggatctggc tgcaagtgcg gcaacggttg tggaggttgc aaaatgtacc 120 ctgacttggg attctccggc gagacaacca caactgagac ttttgtcttg ggcgttgcac 180 cggcgatgaa gaatcagtac gaggcttcag gggagagtaa caacgctgag agcgatgctt 240 qcaaqtqtqq atctqactqc aaqtqtqatc cttqcacctq caaqtqaaqa aqccttttta 300 aataagcaga gataatcgag tctctttaat ntaattaagt tattcaataa gtaaaccata 360 tataggatgg tgtttttagg tttggtttat gtgtaataat ggcttcagct tatcttttag 420 ccgatcattg tcttttgtgt ttgttttgat catatctttt agatgtctag caaatctgcc atgtgatgag tttgtacttc cagtggaatg ataataatat tatagtttta aatcaaaaaa 540 545 aaaaa <210> 4 <211> 81 <212> PRT <213> Arabidopsis thaliana <400> 4

Met Ser Cys Cys Gly Gly Asn Cys Gly Cys Gly Ser Gly Cys Lys Cys 1 5 10 15

```
Gly Asn Gly Cys Gly Gly Cys Lys Met Tyr Pro Asp Leu Gly Phe Ser
Gly Glu Thr Thr Thr Glu Thr Phe Val Leu Gly Val Ala Pro Ala
       35
                         40
                                              45
Met Lys Asn Gln Tyr Glu Ala Ser Gly Glu Ser Asn Asn Ala Glu Ser
   50
                      55
                                          60
Asp Ala Cys Lys Cys Gly Ser Asp Cys Lys Cys Asp Pro Cys Thr Cys
                70
                                      75
Lys
<210> 5
<211> 53
<212> DNA
<213> Artificial sequence
<220>
<223> primer prm03240
<400> 5
ggggacaagt ttgtacaaaa aagcaggctt cacaatgtct tgctgtggag gaa
                                                                    53
<210> 6
<211> 47
<212> DNA
<213> Artificial sequence
<220>
<223> primer prm03241
<400> 6
ggggaccact ttgtacaaga aagctgggtt tcacttgcag gtgcaag
                                                                    47
<210> 7
<211> 3032
<212> DNA
<213> Artificial sequence
<220>
<223> expression cassette for MT2a
<400> 7
aatccgaaaa gtttctgcac cgttttcacc ccctaactaa caatataggg aacgtgtgct
                                                                   60
```

aaatataaaa tgagacctta tatatgtagc gctgataact agaactatgc aagaaaaact 120

catccaccta	ctttagtggc	aatcgggcta	aataaaaaag	agtcgctaca	ctagtttcgt	180
tttccttagt	aattaagtgg	gaaaatgaaa	tcattattgc	ttagaatata	cgttcacatc	240
tctgtcatga	agttaaatta	ttcgaggtag	ccataattgt	catcaaactc	ttcttgaata	300
aaaaaatctt	tctagctgaa	ctcaatgggt	aaagagagag	attttttta	aaaaaataga	360
atgaagatat	tctgaacgta	ttggcaaaga	tttaaacata	taattatata	attttatagt	420
ttgtgcattc	gtcatatcgc	acatcattaa	ggacatgtct	tactccatcc	caatttttat	480
ttagtaatta	aagacaattg	acttattttt	attatttatc	ttttttcgat	tagatgcaag	540
gtacttacgc	acacactttg	tgctcatgtg	catgtgtgag	tgcacctcct	caatacacgt	600
tcaactagca	acacatctct	aatatcactc	gcctatttaa	tacatttagg	tagcaatatc	660
tgaattcaag	cactccacca	tcaccagacc	acttttaata	atatctaaaa	tacaaaaaat	720
aattttacag	aatagcatga	aaagtatgaa	acgaactatt	taggtttttc	acatacaaaa	780
aaaaaaagaa	ttttgctcgt	gcgcgagcgc	caatctccca	tattgggcac	acaggcaaca	840
acagagtggc	tgcccacaga	acaacccaca	aaaaacgatg	atctaacgga	ggacagcaag	900
tccgcaacaa	ccttttaaca	gcaggctttg	cggccaggag	agaggaggag	aggcaaagaa	960
aaccaagcat	cctcctcctc	ccatctataa	attcctcccc	ccttttcccc	tctctatata	1020
ggaggcatcc	aagccaagaa	gagggagagc	accaaggaca	cgcgactagc	agaagccgag	1080
cgaccgcctt	cttcgatcca	tatcttccgg	tcgagttctt	ggtcgatctc	ttccctcctc	1140
cacctcctcc	tcacagggta	tgtgcccttc	ggttgttctt	ggatttattg	ttctaggttg	1200
tgtagtacgg	gcgttgatgt	taggaaaggg	gatctgtatc	tgtgatgatt	cctgttcttg	1260
gatttgggat	agaggggttc	ttgatgttgc	atgttatcgg	ttcggtttga	ttagtagtat	1320
ggttttcaat	cgtctggaga	gctctatgga	aatgaaatgg	tttagggtac	ggaatcttgc	1380
gattttgtga	gtaccttttg	tttgaggtaa	aatcagagca	ccggtgattt	tgcttggtgt	1440
aataaaagta	cggttgtttg	gtcctcgatt	ctggtagtga	tgcttctcga	tttgacgaag	1500
ctatcctttg	tttattccct	attgaacaaa	aataatccaa	ctttgaagac	ggtcccgttg	1560
atgagattga	atgattgatt	cttaagcctg	tccaaaattt	cgcagctggc	ttgtttagat	1620
acagtagtcc	ccatcacgaa	attcatggaa	acagttataa	tcctcaggaa	caggggattc	1680
cctgttcttc	cgatttgctt	tagtcccaga	atttttttc	ccaaatatct	taaaaagtca	1740
ctttctggtt	cagttcaatg	aattgattgc	tacaaataat	gcttttatag	cgttatccta	1800

gctgtagttc agttaatagg taatacccct atagtttagt caggagaaga acttatccga 1860 tttctgatct ccatttttaa ttatatgaaa tgaactgtag cataagcagt attcatttgg 1920 attatttttt ttattagctc tcaccccttc attattctga gctgaaagtc tggcatgaac 1980 tgtcctcaat tttgttttca aattcacatc gattatctat gcattatcct cttgtatcta 2040 cctgtagaag tttctttttg gttattcctt gactgcttga ttacagaaag aaatttatga 2100 agctgtaatc gggatagtta tactgcttgt tcttatgatt catttccttt gtgcagttct 2160 tggtgtagct tgccactttc accagcaaag ttcatttaaa tcaactaggg atatcacaag 2220 tttqtacaaa aaaqcaqqct tcacaatqtc ttqctqtqqa qqaaactqcq qatqtqqatc 2280 tggctgcaag tgcggcaacg gttgtggagg ttgcaaaatg taccctgact tgggattctc 2340 cggcgagaca accacaactg agacttttgt cttgggcgtt gcaccggcga tgaagaatca 2400 gtacgaggct tcaggggaga gtaacaacgc tgagaacgat gcttgcaagt gtggatctga 2460 ctgcaagtgt gatccttgca cctgcaagtg aaacccagct ttcttgtaca aagtggtgat 2520 2580 atcacaagcc cgggcggtct tctagggata acagggtaat tatatccctc tagatcacaa gcccgggcgg tcttctacga tgattgagta ataatgtgtc acgcatcacc atgggtggca 2640 2700 gtgtcagtgt gagcaatgac ctgaatgaac aattgaaatg aaaagaaaaa aagtactcca tctgttccaa attaaaattc attttaacct tttaataggt ttatacaata attgatatat 2760 gttttctgta tatgtctaat ttgttatcat ccgggcggtc ttctagggat aacagggtaa 2820 ttatatccct ctagacaaca cacaacaaat aagagaaaaa acaaataata ttaatttgag 2880 aatgaacaaa aggaccatat cattcattaa ctcttctcca tccatttcca tttcacagtt 2940 3000 cgatagcgaa aaccgaataa aaaacacagt aaattacaag cacaacaaat ggtacaagaa 3032 aaacagtttt cccaatgcca taatactcga ac

```
<210> 8
<211> 11
<212> PRT
```

<213> Artificial sequence

<220>

<223> Type 2 N-terminal domain (synthetic)

<400> 8

Met Ser Cys Cys Gly Gly Asn Cys Gly Cys Ser 1 5 10

```
<211> 16
<212> PRT
<213> Artificial sequence
<220>
<223> consensus sequence
<220>
<221> VARIANT
<222> (7)..(7)
<223> / replace = "Ser"
<220>
<221> VARIANT
<222> (12)..(12)
<223> / replace = "Ser" / replace = "Ala"
<220>
<221> VARIANT
<222> (13)..(13)
<223> / replace = "Ala" / replace = "Ser"
<220>
<221> VARIANT
<222> (15)..(15)
<223> / replace = "Gln" / replace = "Ser"
<400> 9
Met Ser Cys Cys Gly Gly Asn Cys Gly Cys Gly Thr Gly Cys Lys Cys
     5
                                 10
<210> 10
<211> 45
<212> PRT
<213> Arabidopsis thaliana
<400> 10
Met Ala Asp Ser Asn Cys Gly Cys Gly Ser Ser Cys Lys Cys Gly Asp
1
              5
                                 10
                                                    15
Ser Cys Ser Cys Glu Lys Asn Tyr Asn Lys Glu Cys Asp Asn Cys Ser
           20
                              25
Cys Gly Ser Asn Cys Ser Cys Gly Ser Asn Cys Asn Cys
       35
                           40
                                              45
<210> 11
<211> 45
<212> PRT
```

<210> 9

<213> Arabidopsis thaliana <400> 11 Met Ala Gly Ser Asn Cys Gly Cys Gly Ser Ser Cys Lys Cys Gly Asp 1 5 10 15 Ser Cys Ser Cys Glu Lys Asn Tyr Asn Lys Glu Cys Asp Asn Cys Ser 20 25 30 Cys Gly Ser Asn Cys Ser Cys Gly Ser Ser Cys Asn Cys 40 <210> 12 <211> 45 <212> PRT <213> Brassica napus <400> 12 Met Ala Gly Ser Asn Cys Gly Cys Gly Ser Gly Cys Lys Cys Gly Asp 1 5 10 15 Ser Cys Ser Cys Glu Lys Asn Tyr Asn Thr Glu Cys Asp Ser Cys Ser 20 25 30 Cys Gly Ser Asn Cys Ser Cys Gly Asp Ser Cys Ser Cys 35 40 45 <210> 13 <211> 73 <212> PRT <213> Oryza sativa <400> 13 Met Ser Cys Ser Cys Gly Ser Ser Cys Ser Cys Gly Ser Asn Cys Ser 1 5 10 15 Cys Gly Lys Lys Tyr Pro Asp Leu Glu Glu Lys Ser Ser Ser Thr Lys 20 25 30 Ala Thr Val Val Leu Gly Val Ala Pro Glu Lys Lys Gln Gln Phe Glu

Ala Ala Ala Glu Ser Gly Glu Thr Ala His Gly Cys Ser Cys Gly Ser 50 55 60

40

35

```
Ser Cys Arg Cys Asn Pro Cys Asn Cys
<210> 14
<211> 75
<212> PRT
<213> Pisum sativum
<400> 14
Met Ser Gly Cys Gly Cys Gly Ser Ser Cys Asn Cys Gly Asp Ser Cys
                10 15
Lys Cys Asn Lys Arg Ser Ser Gly Leu Ser Tyr Ser Glu Met Glu Thr
   20 25 30
Thr Glu Thr Val Ile Leu Gly Val Gly Pro Ala Lys Ile Gln Phe Glu
          40 45
    35
Gly Ala Glu Met Ser Ala Ala Ser Glu Asp Gly Gly Cys Lys Cys Gly
  50 55 60
Asp Asn Cys Thr Cys Asp Pro Cys Asn Cys Lys
70 75
<210> 15
<211> 75
<212> PRT
<213> Medicago sativa
<400> 15
Met Ser Gly Cys Asn Cys Gly Ser Ser Cys Asn Cys Gly Asp Asn Cys
1 5 10 15
Lys Cys Asn Ser Arg Ser Ser Gly Leu Gly Tyr Leu Glu Gly Glu Thr
  20 25 30
Thr Glu Thr Val Ile Leu Gly Val Gly Pro Ala Lys Ile His Phe Glu
 35 40 45
Gly Ala Glu Met Gly Val Ala Ala Glu Asp Gly Gly Cys Lys Cys Gly
  50 55 60
```

Asp Ser Cys Thr Cys Asp Pro Cys Asn Cys Lys 65 70 75

```
<210> 16
<211> 80
<212> PRT
<213> Brassica oleracea
<400> 16
Met Ser Cys Cys Gly Gly Asn Cys Gly Cys Gly Ser Gly Cys Lys Cys
1 5 10 15
Gly Asn Gly Cys Gly Gly Cys Lys Met Tyr Pro Asp Leu Gly Phe Ser
   20 25
Gly Glu Leu Thr Thr Glu Thr Phe Val Phe Gly Val Ala Pro Thr
            40
Met Lys Asn Gln His Glu Ala Ser Gly Glu Gly Val Ala Glu Asn Asp
Ala Cys Lys Cys Gly Ser Asp Cys Lys Cys Asp Pro Cys Thr Cys Glu
                           75
         70
65
<210> 17
<211> 77
<212> PRT
<213> Arabidopsis thaliana
<400> 17
Met Ser Cys Cys Gly Gly Ser Cys Gly Cys Gly Ser Ala Cys Lys Cys
1 5 10 15
Gly Asn Gly Cys Gly Gly Cys Lys Arg Tyr Pro Asp Leu Glu Asn Thr
                  25
       20
Ala Thr Glu Thr Leu Val Leu Gly Val Ala Pro Ala Met Asn Ser Gln
Tyr Glu Ala Ser Gly Glu Thr Phe Val Ala Glu Asn Asp Ala Cys Lys
 50 55 60
Cys Gly Ser Asp Cys Lys Cys Asn Pro Cys Thr Cys Lys
65 70 75
```

```
<211> 80
<212> PRT
<213> Petunia hybrida
<400> 18
Met Ser Cys Cys Gly Gly Asn Cys Gly Cys Gly Ser Gly Cys Lys Cys
1 5 10 15
Gly Asn Gly Cys Gly Gly Cys Lys Met Tyr Pro Asp Phe Ser Tyr Thr
            25 30
       20
Glu Ser Thr Thr Thr Glu Thr Leu Ile Leu Gly Val Gly Pro Glu Lys
    35 40 45
Thr Ser Phe Gly Ser Met Glu Met Gly Glu Ser Pro Ala Glu Asn Gly
Cys Lys Cys Gly Ser Asp Cys Lys Cys Asp Pro Cys Thr Cys Ser Lys
            70
                        75
<210> 19
<211> 78
<212> PRT
<213> Silene vulgaris
<400> 19
Met Ser Cys Cys Asn Gly Asn Cys Gly Cys Gly Ser Ala Cys Lys Cys
1 5 10 15
Gly Ser Gly Cys Gly Cys Lys Met Phe Pro Asp Phe Ala Glu Gly
     20
               25 30
Ser Ser Gly Ser Ala Ser Leu Val Leu Gly Val Ala Pro Met Ala Ser
  35 40 45
Tyr Phe Asp Ala Glu Met Glu Met Gly Val Ala Thr Glu Asn Gly Cys
  50
              55
Lys Cys Gly Asp Asn Cys Gln Cys Asn Pro Cys Thr Cys Lys
65 70 75
<210> 20
<211> 80
```

<212> PRT

<213> Oryza sativa

<400> 20

Met Ser Cys Cys Gly Gly Asn Cys Gly Cys Gly Ser Ser Cys Gln Cys 1 5 10 15

Gly Asn Gly Cys Gly Gly Cys Lys Tyr Ser Glu Val Glu Pro Thr Thr 20 25 30

Thr Thr Thr Phe Leu Ala Asp Ala Thr Asn Lys Gly Ser Gly Ala Ala 35 40 45

Ser Gly Gly Ser Glu Met Gly Ala Glu Asn Gly Ser Cys Gly Cys Asn 50 55 60

Thr Cys Lys Cys Gly Thr Ser Cys Gly Cys Ser Cys Cys Asn Cys Asn 65 70 75 80

<210> 21

<211> 69

<212> PRT

<213> Arabidopsis thaliana

<400> 21

Met Ser Ser Asn Cys Gly Ser Cys Asp Cys Ala Asp Lys Thr Gln Cys 1 5 10 15

Val Lys Lys Gly Thr Ser Tyr Thr Phe Asp Ile Val Glu Thr Gln Glu 20 25 30

Ser Tyr Lys Glu Ala Met Ile Met Asp Val Gly Ala Glu Glu Asn Asn 35 40 45

Ala Asn Cys Lys Cys Lys Cys Gly Ser Ser Cys Ser Cys Val Asn Cys 50 55

Thr Cys Cys Pro Asn 65

<210> 22

<211> 65

<212> PRT

<213> Musa acuminata

<400> 22

```
Met Ser Thr Cys Gly Asn Cys Asp Cys Val Asp Lys Ser Gln Cys Val
1 5 10 15
Lys Lys Gly Asn Ser Tyr Gly Ile Asp Ile Val Glu Thr Glu Lys Ser
      20 25 30
Tyr Val Asp Glu Val Ile Val Ala Ala Glu Ala Glu His Asp Gly
   35 40 45
Lys Cys Lys Cys Gly Ala Ala Cys Ala Cys Thr Asp Cys Lys Cys Gly
              55
Asn
65
<210> 23
<211> 63
<212> PRT
<213> Actinidia deliciosa
<400> 23
Met Ser Asp Lys Cys Gly Asn Cys Asp Cys Ala Asp Ser Ser Gln Cys
1 5 10 15
Val Lys Lys Gly Asn Ser Ile Asp Ile Val Glu Thr Asp Lys Ser Tyr
   20 25 30
Ile Glu Asp Val Val Met Gly Val Pro Ala Ala Glu Ser Gly Gly Lys
    35
            40
                          45
Cys Lys Cys Gly Thr Ser Cys Pro Cys Val Asn Cys Thr Cys Asp
 50 55 60
<210> 24
<211> 62
<212> PRT
<213> Oryza sativa
<400> 24
```

Met Ser Asp Lys Cys Gly Asn C